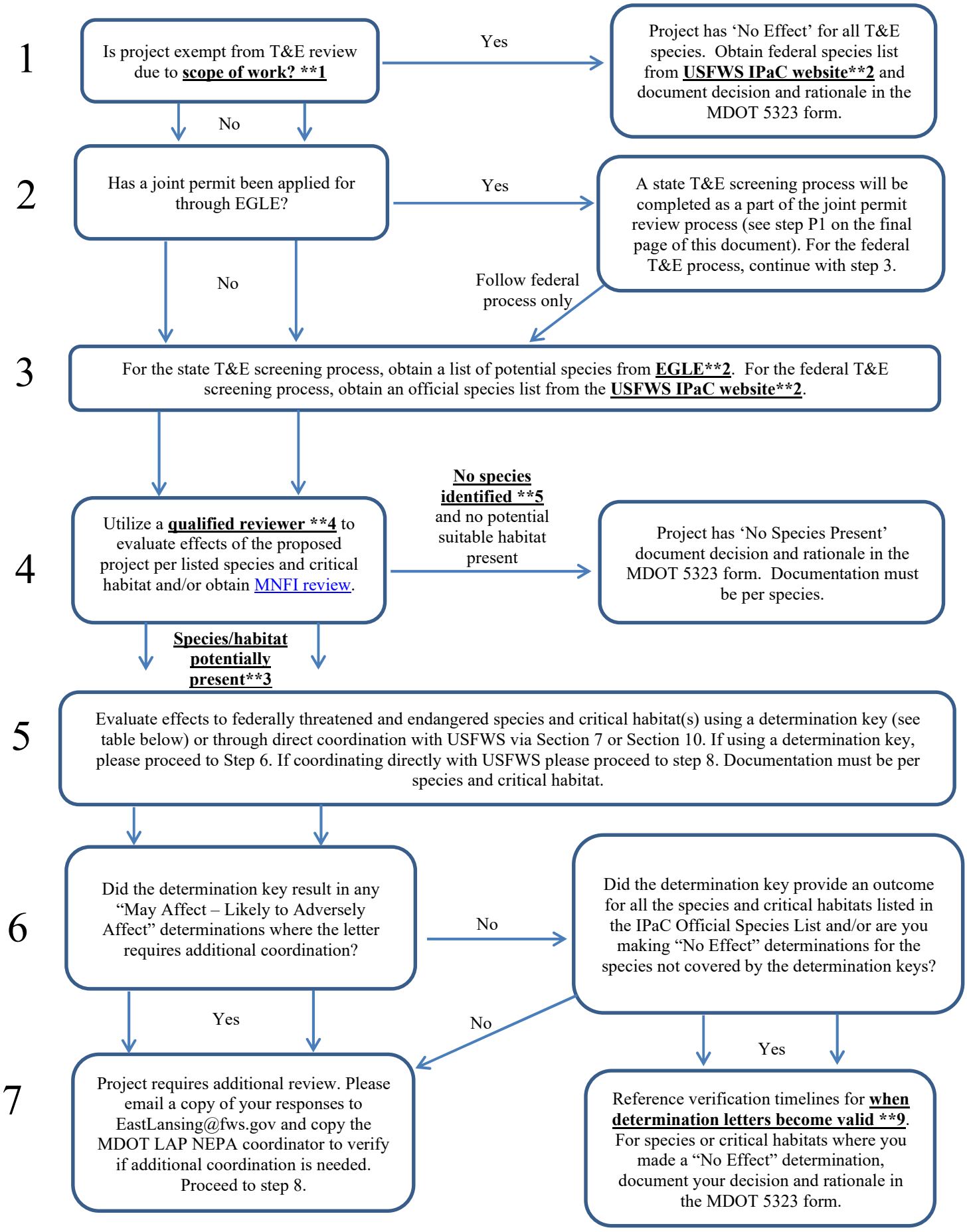
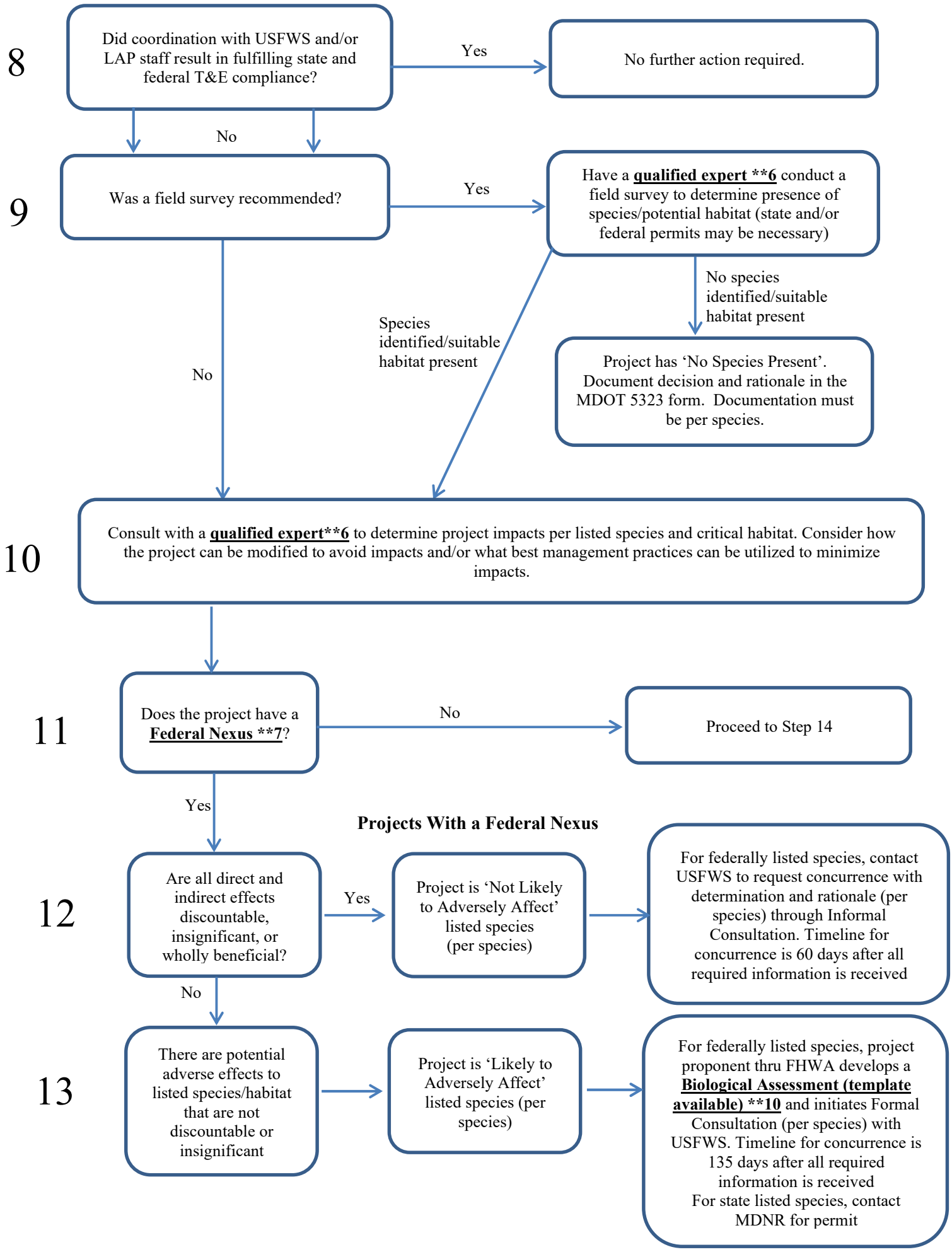
Local Agency Threatened & Endangered Species Review Process

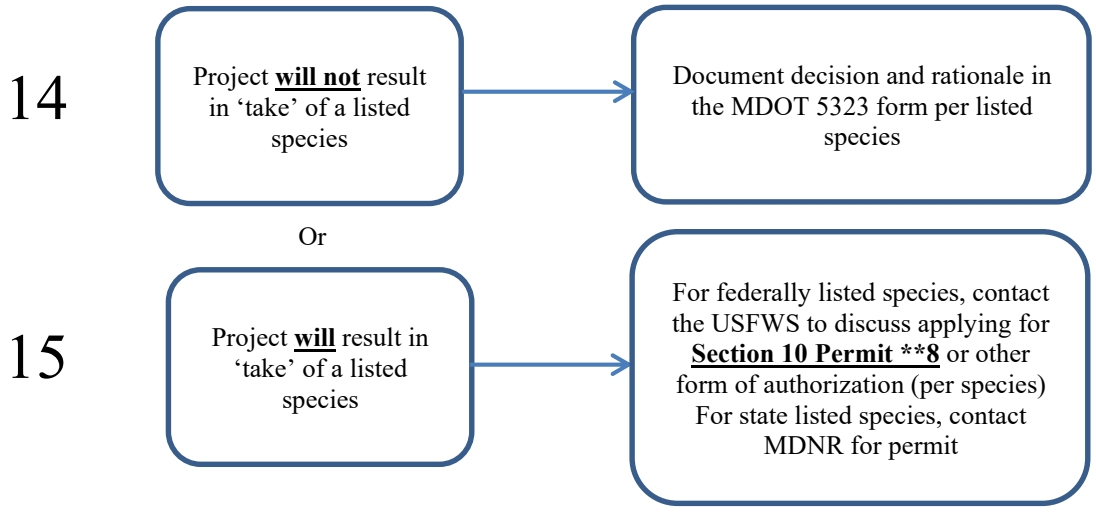
Updated April 2023

The following process is for all Threatened & Endangered Species. Local Agencies should follow this for all projects that utilize federal or state funding.


1
Is project exempt from T&E review due to scope of work? **1
Yes
Project has 'No Effect' for all T&E species. Obtain federal species list from USFWS IPaC website**2 and document decision and rationale in the MDOT 5323 form.
No
2
Has a joint permit been applied for through EGLE?
Yes
A state T&E screening process will be completed as a part of the joint permit review process (see step P1 on the final page of this document). For the federal T&E process, continue with step 3.
No
Follow federal process only
3
For the state T&E screening process, obtain a list of potential species from EGLE**2. For the federal T&E screening process, obtain an official species list from the USFWS IPaC website**2.
4
Utilize a qualified reviewer **4 to evaluate effects of the proposed project per listed species and critical habitat and/or obtain MNFI review.
No species identified **5 and no potential suitable habitat present
Project has 'No Species Present' document decision and rationale in the MDOT 5323 form. Documentation must be per species.
Species/habitat potentially present**3
5
Evaluate effects to federally threatened and endangered species and critical habitat(s) using a determination key (see table below) or through direct coordination with USFWS via Section 7 or Section 10. If using a determination key, please proceed to Step 6. If coordinating directly with USFWS please proceed to step 8. Documentation must be per species and critical habitat.
6
Did the determination key result in any "May Affect – Likely to Adversely Affect" determinations where the letter requires additional coordination?
No
Did the determination key provide an outcome for all the species and critical habitats listed in the IPaC Official Species List and/or are you making "No Effect" determinations for the species not covered by the determination keys?
Yes
No
Yes
7
Project requires additional review. Please email a copy of your responses to EastLansing@fws.gov and copy the MDOT LAP NEPA coordinator to verify if additional coordination is needed. Proceed to step 8.
Reference verification timelines for when determination letters become valid **9. For species or critical habitats where you made a "No Effect" determination, document your decision and rationale in the MDOT 5323 form.


8
Did coordination with USFWS and/or LAP staff result in fulfilling state and federal T&E compliance?
Yes
No further action required.
No
9
Was a field survey recommended?
Yes
Have a qualified expert **6 conduct a field survey to determine presence of species/potential habitat (state and/or federal permits may be necessary)
No species identified/suitable habitat present
Project has 'No Species Present'. Document decision and rationale in the MDOT 5323 form. Documentation must be per species.
Species identified/suitable habitat present
No
10
Consult with a qualified expert**6 to determine project impacts per listed species and critical habitat. Consider how the project can be modified to avoid impacts and/or what best management practices can be utilized to minimize impacts.
11
Does the project have a Federal Nexus **7?
No
Proceed to Step 14
Yes
Projects With a Federal Nexus
12
Are all direct and indirect effects discountable, insignificant, or wholly beneficial?
Yes
Project is 'Not Likely to Adversely Affect' listed species (per species)
For federally listed species, contact USFWS to request concurrence with determination and rationale (per species) through Informal Consultation. Timeline for concurrence is 60 days after all required information is received
No
13
There are potential adverse effects to listed species/habitat that are not discountable or insignificant
Project is 'Likely to Adversely Affect' listed species (per species)
For federally listed species, project proponent thru FHWA develops a Biological Assessment (template available) **10 and initiates Formal Consultation (per species) with USFWS. Timeline for concurrence is 135 days after all required information is received
For state listed species, contact MDNR for permit

Projects Without a Federal Nexus



This process is only for determining effects of the action to listed threatened or endangered species. This process does not exempt the project proponents from other protected resource reviews such as wetland impacts, migratory birds, bald eagles, etc.

Footnote

**1 – See Appendix B for list of exempt work types

**2 – A list of federally threatened and endangered species in your project area can be generated on the USFWS IPaC website. To request a preliminary review of project related special interests (including state T&E Species) from EGLE, submit the form called 'Transportation Service Request – T&E Species & SHPO Map/Data Review (Preliminary Desktop Review)' in MiEnviro

**3 – See Appendix A for more information about Northern Long-eared Bat, Indiana Bat, and Eastern Massasauga

**4 – A Qualified Reviewer is someone familiar with the project and the basics of the Endangered Species Act and state protections.

**5 – Some species may be considered present even with a negative result from MNFI (e.g., Indiana Bat, Northern Long-Eared Bat, Eastern Massasauga)

**6 A Qualified Expert is someone who has knowledge, skill, education, experience, or training in wildlife biology, ecology or a related natural resource field and has demonstrable experience evaluating potential impacts of the species under the Endangered Species Act. Documentation should be included in the MDOT 5323 form.

**7 – A project has a federal nexus if a Federal agency authorizes, funds, or carries out any part of the proposed project

**8 – A Section 10 permit for potential impacts to threatened and endangered plants may not be necessary under certain circumstances. Contact USFWS for further review.

**9 – During verification periods staff from LAP or USFWS may contact you regarding your project outcome. Please respond in a timely manner with all requested information help speed up review times.

**10 – The legal requirements of a Biological Assessment can be found at 50 CFR § 402.12. Contact the Michigan Ecological Services Field Office for a template Biological Assessment form.

Name of key available in MI	Species covered	Types of projects that the key covers	Types of projects that do not qualify
All Species Michigan Determination Key	All species in MI	Routine, small-scale projects in some areas of Michigan may be able to get concurrence if applicants agree to certain conservation measures for some species	Wind energy development, purposeful take, communication towers over 200 ft. tall, aerial or other broad application of chemicals
FHWA, FRA, FTA Programmatic Consultation for Transportation Projects	Indiana bat and northern long-eared bat (NLEB)	Federal transportation projects with potential effects to listed bats. Note that this key does not cover other Federally listed species that may be affected by project activities. Therefore, additional consultation or coordination may be necessary for other species.	Projects other than Federally funded or authorized transportation projects

Definitions

Beneficial – effects are contemporaneous positive effects without any adverse effects to individuals of the species.

Discountable – effects are those extremely unlikely to occur. Based on best judgment, a person would not: (1) be able to meaningfully measure, detect, or evaluate insignificant effects; or (2) expect discountable effects to occur.

Insignificant – effects relate to the size of the impact and should never reach the scale where take occurs.

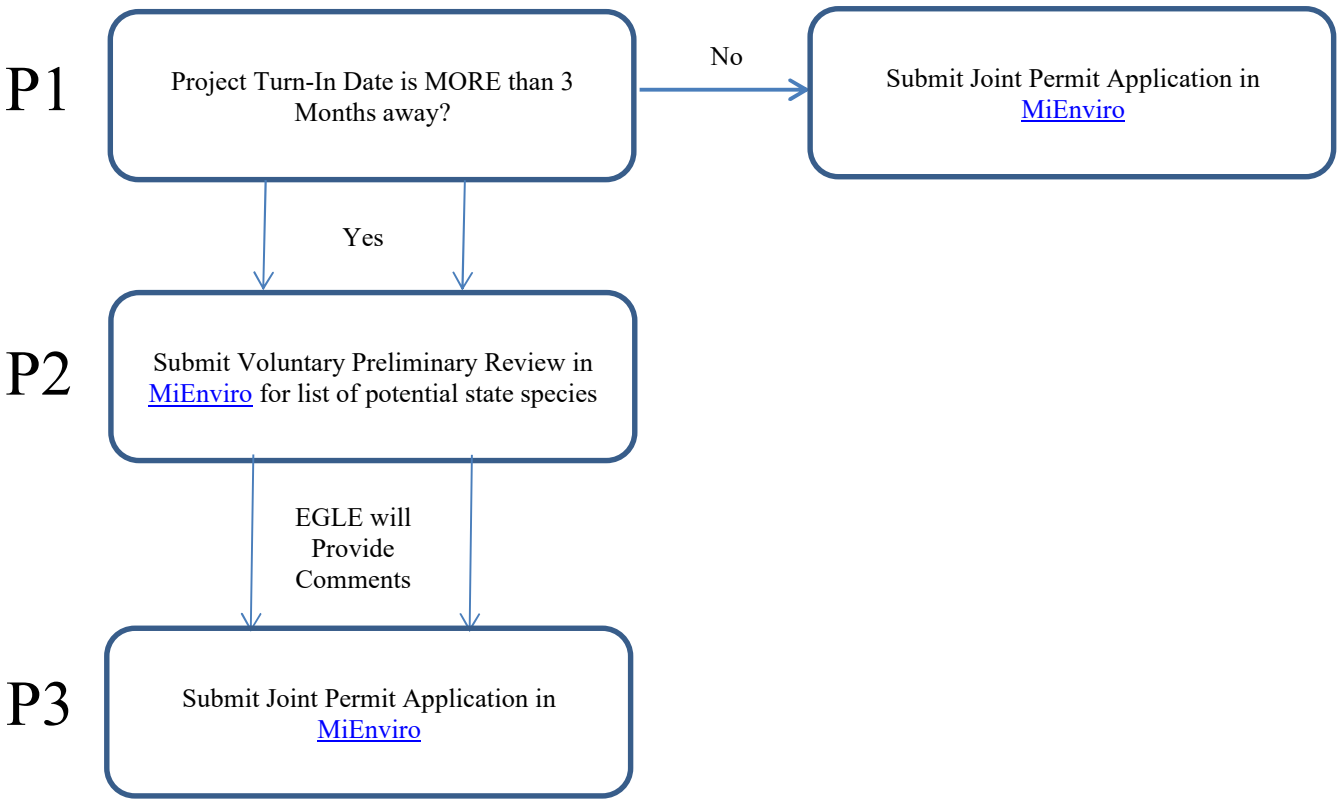
Likely to Adversely Affect – if any adverse effect to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not: discountable, insignificant, or beneficial. In the event the overall effect of the proposed action is beneficial to the listed species, but is also likely to cause some adverse effects, then the proposed action is “likely to adversely affect" the listed species. If incidental take is anticipated to occur as a result of the proposed action, a “likely to adversely affect" determination should be made. A "likely to adversely affect" determination requires the initiation of formal section 7 consultation.

No Effect – when the action agency determines its proposed action will not affect a listed species or designated critical habitat.

Not Likely to Adversely Affect – when effects on listed species are expected to be discountable, insignificant, or completely beneficial.

Take – to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. [ESA §3(19)] **Harm** is further defined by FWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering. **Harass** is defined by FWS as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. [50 CFR §17.3]

Projects Requiring an EGLE Resource Permit



Attachment A

MDOT LOCAL AGENCY PROGRAM

CONSIDERATIONS FOR DETERMINING THE EFFECT OF FEDERALLY FUNDED PROJECTS ON NORTHERN LONG-EARED BATS AND INDIANA BATS

Indiana and Northern Long-Eared Bat

Some tools and guidance documents available to assist stakeholders in assessing the impacts of projects to federally listed bats in Michigan include:

Michigan Bat Project Design Guidelines

All-Species Michigan Determination Key available through IPaC

FHWA, FRA,FTA Programmatic Consultation for Transportation Projects affecting NLEB or Indiana Bat Determination Key available through IPac

Structure assessments are recommended before construction or maintenance activities that may disturb roosting spaces in structures suitable for bats in Michigan, including some bridges and culverts. Suitable bridges include those located below the third county tier of Michigan, within 1,000 feet of suitable forested habitat, and that contain suitable roosting spaces (e.g., expansion joints, cracks/crevices). Suitable culverts include box culverts between 5 and 10 feet tall, 300 feet or more long, located below the third county tier of Michigan, within 1,000 feet of suitable forested habitat, and that contain suitable roosting spaces. Structure assessments should be conducted during the summer roosting season for bats, between May 15 – August 15. For more information on structure assessments, please see the Fish and Wildlife Service's Structure Assessments and Forms

For information about conducting presence/absence surveys for Indiana bat or northern long-eared bat, please review the Range-Wide Survey Guidelines.

Please note coordination with your local Fish and Wildlife Service Field Office is required as part of these guidelines. You can contact the Michigan Ecological Services Field Office at EastLansing@fws.gov.

For general information about federally listed bat species, please visit the species profiles for Indiana Bat and northern long-eared bat.

U.S. Fish and Wildlife Service Contact Information

For specific questions about section 7 consultation, determination keys, or federally endangered species, contact Shaughn Galloway or Michelle Kane at:

U.S. Fish and Wildlife Service
East Lansing Field Office
2651 Coolidge Road, Suite 101
East Lansing, MI 48823
517-351-2555 (office)
517-351-1443 (fax)
michelle_kane@fws.gov
shaughn_galloway@fws.gov

Address requests for standard section 7 consultation at:

U.S. Fish and Wildlife Service
East Lansing Field Office
2651 Coolidge Road, Suite 101
East Lansing, MI 48823
EastLansing@fws.gov

Environmental Screening for Eastern Massasauga Rattlesnake in Michigan

March 14, 2017

Background

The Eastern Massasauga Rattlesnake (EMR) is listed as a threatened species under the U.S. Endangered Species Act (Act). The Act protects the EMR and their habitat by prohibiting "take" and may require agencies to coordinate with the U.S. Fish and Wildlife Service (Service) before authorizing or funding an activity affecting the species. To streamline coordination, the Service's Michigan Ecological Services Field Office has developed a set of Best Management Practices (BMPs) for specific activities potentially impacting EMR in Michigan. These BMPs are voluntary and just one of the ways that compliance with the Act may be achieved.

Projects may…

- have no effect to EMR and no need for additional ESA compliance considerations.
- have potential for adverse effects, but use BMPs to avoid adverse effects (i.e., "not likely to adversely affect" EMR) or minimize the adverse effects.
- use surveys to confirm probable absence of EMR (contact the Service for survey guidance).
- use "Informal Consultation" with Service (for actions requiring a Federal permit or funding).
- use "Formal Consultation" with Service (for actions requiring a Federal permit or funding).
- develop a Habitat Conservation Plan and seek an ESA permit, if adverse effects cannot be avoided.

For activities not listed in the BMPs, please contact the Service for project-specific recommendations. In some cases implementation of BMPs may not be sufficient to avoid all adverse impacts to EMR and additional consultation with the Service may be required. The Service can assist planners in determining whether adverse effects are likely as a result of proposed projects, and whether implementation of BMPs is sufficient to remove the risk of adverse effects.

Additional information on compliance with the Act can be found:

For Federal actions/section 7 consultation:
https://www.fws.gov/midwest/Endangered/section7/s7process/index.html

For non-Federal actions:
https://www.fws.gov/midwest/endangered/permits/index.html

For questions or comments you may contact the Service below:
U.S. Fish and Wildlife Service
Michigan Ecological Services Field Office
2651 Coolidge Road, Suite 101
East Lansing, MI 48823
Phone: (517)351-2555
Email: eastlansing@fws.gov

Definitions

Active Season: The active season begins in the spring when snakes emerge from hibernation, generally when maximum air temperatures are above 50°F, and ends in the fall when EMR have returned to their hibernacula and temperatures are consistently below 45°F. In Michigan, the active season is generally April through October. The active season dates will vary by location and weather. **Contact the Service for project-specific dates based on location when work in EMR habitat is planned near the start or end of the active season**.

Affecting hydrology: We consider "affecting hydrology" to include projects that are likely to appreciably change the elevations of surface water upstream or downstream, or in the local ground water (as estimated pre-project vs. post-project). The concern is for changes to local hydrology (e.g., creating new ditches, creating a new impoundment) that might harm EMR hibernating at or near ground water, or actions that significantly alter available suitable habitat either through flooding or drying of EMR wetlands.

Hibernacula: Areas suitable for EMR to overwinter. For most EMR populations, the locations of hibernacula are not known, but these areas are critical to protect. Unfortunately, we lack information on how to reliably identify these areas. EMR usually hibernate below the frost line in crayfish or small mammal burrows, tree root networks or rock cervices in or along the edge of wetlands or in adjacent upland areas with presumably high water tables (areas where the soil is saturated but not inundated). Following egress from hibernacula in the spring, EMR typically remain aboveground in the vicinity for a week or two, and return to these areas in the fall for several weeks prior to entering hibernation. Surveys in the spring (shorting following egress) or fall (prior to ingress) when snakes are congregating in the vicinity may help identify these important areas. Maintaining stable hydrology of these areas is important during the inactive season.

IPaC: "Information for Planning and Conservation" is a project planning tool available on-line to the public that streamlines the Service's environmental review process.

EMR Habitat: "Eastern Massasaugas have been found in a variety of wetland habitats. Populations in southern Michigan are typically associated with open wetlands, particularly prairie fens, while those in northern Michigan are known from open wetlands and lowland coniferous forests, such as cedar swamps. Some populations of Eastern Massasaugas also utilize open uplands and/or forest openings for foraging, basking, gestation and parturition (i.e., giving birth to young). Massasauga habitats generally appear to be characterized by the following: (1) open, sunny areas intermixed with shaded areas, presumably for thermoregulation; (2) presence of the water table near the surface for hibernation; and (3) variable elevations between adjoining lowland and upland habitats." From Michigan Natural Features Inventory (Website: mnfi.anr.msu.edu)

Tier 1 Habitat: Areas known to be occupied by EMR or highly likely to be occupied by EMR.

Tier 2 Habitat: Areas with high potential habitat and may be occupied by EMR.

Within the known range: EMR can occur throughout the Lower Peninsula and on Bois Blanc Island in Mackinac County. Areas within the known range but outside of Tier 1 and Tier 2 are considered less likely to be occupied. EMR is highly secretive and cryptic in nature, and can persist in low densities, which makes them difficult to detect. Further, there are extensive areas of the state that have never been surveyed. It is likely that there are additional and yet-unknown occurrences throughout the Lower Peninsula of Michigan. Mapped habitats are subject to change based on new information identifying current Tier 1 and 2 areas as unsuitable, or based on discovery of new EMR occurrences.

EMR Environmental Screening Step-wise Process

Step 1. Determine if EMR may be present in the action area

- ✓ Determine whether the project is in potential EMR habitat using https://ecos.fws.gov/ipac
  - You can search for your project location and define the action area by drawing a polygon or uploading a shapefile.
  - IPaC will give you a list of species that may be present in the area you identified. If you click on the thumbnail for EMR, it will tell you if your project is within Tier 1 or Tier 2 habitat, or within the known range of EMR. If EMR is not listed, you do not need to consider this species. Effects to other listed species should also be considered; contact the Service if you need assistance.
  - If EMR is listed, it does not necessarily mean that the entire action area is potential habitat, only that some potential habitat is within the action area entered. For large-scale (e.g., county-wide or multi-county projects) consider coordinating the Michigan Ecological Services Field Office for direct assistance.

If your project is within the known range of EMR, including Tier 1 or Tier 2 habitat, continue to step 2:

Step 2. Determine if the project has the potential to affect EMR

Projects have no effect on EMR when…

- ✓ There is no suitable EMR habitat in the project area and no potential impact off-site (e.g., water discharge into adjacent EMR habitat). If project site conditions are determined to be wholly unsuitable for EMR (e.g., project is in regularly mowed turf grass, row crop, graveled lot, existing building, or industrial site), it is not suitable EMR habitat.
- ✓ The project occurs within suitable habitat, but the action will have absolutely no effect on the habitat or EMR.
- ✓ In suitable EMR habitat, but the site is entirely unoccupied by the species. This is typically confirmed through surveys (contact the Service for more information). In some cases it may be easier to assume EMR are present and use BMPs than to conduct surveys for the species.

For projects where there is a potential for effects to EMR, continue to the section of the document as follows:

For projects with a combination of Tier 1 and Tier 2 habitat, follow the instructions for Tier 1.

Tier 1 Habitat

Tier 1: Project will not affect EMR if all of the following apply:

1. Project will not result in any changes to suitable EMR habitat quality, quantity, availability or distribution, including changes to local hydrology
2. If EMR are present in the project area, they are not likely to have any response as a result of exposure to the action or any environmental changes as a result of the action
3. Project includes all General Best Management Practices:
   a. Use wildlife-safe materials for erosion control and site restoration (see Erosion Control Resources side panel). In Tier 1 habitat, immediately eliminate use of erosion control products containing plastic mesh netting or other similar material that could entangle EMR.
   b. To increase human safety and awareness of EMR, those implementing the project should first watch MDNR's "60-Second Snakes: The Eastern Massasauga Rattlesnake" video (available at https://youtu.be/-PFnXe_e02w), or review the EMR factsheet (available at https://www.fws.gov/midwest/endangered/reptiles/eama/pdf/EMRfactsheetSept2016.pdf or by calling 517-351-2555.
   c. Require reporting of any EMR observations, or observation of any other listed threatened or endangered species, during project implementation to the Service within 24 hours.

Tier 1: Project Not Affecting EMR Coordination Recommendation: No pre-project coordination with Service needed. Document the steps above for your records.

Tier 1: All Other Projects: For any other projects in Tier 1 habitat that may affect EMR or its habitat, contact the Service for assistance in evaluating potential impacts. Best Management Practices (starting on page 8) are included for many actions to help with project planning, but may not be sufficient to avoid all adverse impacts. The Service can determine whether additional measures are necessary after a project-specific review.

Erosion Control Resources

There are a variety of products that can be used for soil erosion and control requirements. These products may incorporate plastic mesh netting to help maintain form and function. This plastic netting has been demonstrated to entangle a wide variety of wildlife from birds to small mammals. In Michigan, soil erosion control netting has resulted in the documented mortality of a number of imperiled amphibian and reptile species including the EMR and the Eastern Fox Snake (State Threatened).

Several products for soil erosion and control exist that do not contain plastic netting including net-less erosion control blankets (for example, made of excelsior), loose mulch, hydraulic mulch, soil binders, unreinforced silt fences, and straw bales. Others are made from natural fibers (such as jute) and loosely woven together in a manner that allows wildlife to wiggle free. For more information regarding wildlife-safe erosion control measures contact the USFWS Michigan Ecological Services Field Office.

Tier 2 Habitat

Tier 2: Project is not likely to adversely affect EMR if all of the following apply:

1. Project does not impact more than 1 acre of wetland habitat and includes all applicable activity-specific BMPs (starting on page 8), and
2. Project will not appreciably affect hydrology
3. Project includes all General Best Management Practices:
    a. Use wildlife-safe materials for erosion control and site restoration (See Erosion Control Resources side panel, page 4). In Tier 2 habitat, eliminate the use of erosion control products containing plastic mesh netting or other similar material that could ensnare EMR as soon as is feasible but no later than January 1, 2018.
    b. To increase human safety and awareness of EMR, those implementing the project should first watch MDNR's "60-Second Snakes: The Eastern Massasauga Rattlesnake" video (available at https://youtu.be/-PFnXe_e02w), or review the EMR factsheet (available at https://www.fws.gov/midwest/endangered/reptiles/eama/pdf/EMRfactsheetSept2016.pdf or by calling 517-351-2555.
    c. Require reporting of any EMR observations, or observation of any other listed threatened or endangered species, during project implementation to the Service within 24 hours.

Tier 2: Project Not Likely to Adversely Affect EMR Coordination Recommendation: Informal consultation with Service for actions requiring a Federal permit or funding. For non-Federal projects, document the steps above for your records, but no pre-project coordination with the Service needed.

Tier 2: All Other Projects: Coordinate with the Service for a project-level review to determine potential impacts and whether additional conservation measures are needed to avoid adverse effects.

Within the known range of EMR

For projects within the known range of EMR, but outside of Tier 1 and Tier 2 habitat:

To help ensure your project is unlikely to affect EMR:

1. Project applies the General Best Management Practices:
    a. Use wildlife-safe materials for erosion control and site restoration (See Erosion Control Resources side panel, page 4). By January 1, 2019, eliminate the use of erosion control products containing plastic mesh netting or other similar material that could ensnare EMR (within the known range but outside of Tier1 or Tier 2 habitat).
    b. To increase human safety and awareness of EMR, those implementing the project should first watch MDNR's "60-Second Snakes: The Eastern Massasauga Rattlesnake" video (available at https://youtu.be/-PFnXe_e02w), or review the EMR factsheet (available at https://www.fws.gov/midwest/endangered/reptiles/eama/pdf/EMRfactsheetSept2016.pdf or by calling 517-351-2555.
    c. Require reporting of any EMR observations, or observation of any other listed threatened or endangered species, during project implementation to the Service within 24 hours.
2. Project will not have significant impacts to dispersal, connectivity, or hydrology of existing EMR potential habitat, i.e., filling less than 1 acre of wetland habitat or converting less than 20 acres of uplands of potential EMR habitat (uplands associated with high quality wetland habitat) to other land uses.

Within the Known Range, but Outside Tier 1 or 2 Coordination Recommendation:
Document the steps above for your records and no pre-project coordination with the Service needed. If you cannot implement the General Best Management Practices contact the Service for assistance in evaluating potential impacts.

Activity-Specific Best Management Practices

For Tier 1, BMPs are included; however, even with implementation of the BMPs, project-specific review may be needed to determine whether they are sufficient to avoid all adverse impacts

- In Tier 1 habitat, contact the Service regarding the potential applicability of surveys to determine EMR absence in suitable habitat. In Tier 2, surveys can be conducted to confirm the presence of suitable habitat and/or the presence/probable absence of EMR. If onsite habitat is determined to be wholly unsuitable via desktop analysis (e.g., entirely mowed lawn, row crop, graveled lot, and industrial site), then it can be classified as unoccupied and the BMPs will not be necessary.
- Minimize work in Tier 1 and Tier 2 EMR habitat. When feasible, do not route new construction projects, such as pipelines, facilities, or access roads, through potential EMR habitat. Implement the use of wildlife-friendly corridors (e.g., oversized culverts) into new road design to maintain or enhance habitat connectivity.
- Projects should be designed to minimize the potential for disturbance to EMR during project activities.

Maintenance Activities (includes nominal modifications to existing roads and infrastructure)

1. Ground Disturbing Activities
    a. All
        i. No known EMR hibernacula are destroyed or disturbed at any time of year. Because these areas are often not known:
            1. For Tier 1: contact the Service to determine whether adverse impacts are likely as a result of ground disturbing work in Tier 1 habitat.
            2. For Tier 2: when operating in potential hibernation areas (e.g., EMR wetlands and adjacent areas with crayfish burrows, rodent holes, small mammal burrows, etc.), work is conducted well within the active season (June – August) to avoid when snakes are likely to be present. During this time, they are most likely to be able to move out of the way of disturbance and have greater chances to find alternative hibernation sites. Destroying potential hibernacula may still impact snakes indirectly. Potential hibernation areas should be avoided to the extent possible.
    b. Grading
        i. When working during EMR active season, use exclusionary fencing to separate EMR habitat from the work site to prevent EMR from accessing the disturbance area. For example, in linear projects exclusionary fencing should run parallel to the disturbance, creating a barrier to snake movement. Each end of the exclusionary fencing should be angled away from the area of disturbance to direct snakes traveling along fencing away from the site. The

exclusionary fencing will typically be traditional silt fence that is set up outside of all areas of disturbance and other types of fencing (i.e., snow fence used to delineate the work zone). Do not use fencing materials that can entangle or injure snakes.

ii. Any areas using exclusionary fencing should first be "cleared" by a qualified individual[1] before beginning construction activities. Fencing should be installed a minimum of 1 day before construction activities occur and walked weekly to ensure the integrity of the fence. If snakes are seen within the work zone, activity should stop until the snake can be safely moved, and the fence examined for breeches.

iii. Revegetate all disturbed Tier 1 and Tier 2 habitat with appropriate plant species (i.e., native species or other suitable non-invasive species present on site prior to disturbance). Monitor all restoration plantings for proper establishment and implement supplemental plantings as necessary to ensure restorations are of equal to or better habitat quality than previous conditions.

iv. In Tier 1 and Tier 2, avoid spread of invasive species into EMR habitat by following best practices. This includes inspecting and cleaning equipment and vehicles between work sites as needed to avoid the spread of invasive plant materials.

c. Trenching

i. In Tier 1 and Tier 2, avoid trenching in EMR wetlands when possible. In Tier 1, if open trenching is required install exclusionary fencing (follow measures 1(b)(i)-(iv)) and ensure the area is clear prior to trenching.

d. Fill

i. In Tier 1 and Tier 2, ensure all imported fill material is free from contaminants or invasive species could affect the species or habitat through acquisition of materials at an appropriate quarry or other such measures.

ii. In Tier 1 and Tier 2, use exclusionary fencing around the area to be filled and have the site "cleared" prior to placing fill by a qualified individual (as in 1(b)(i)-(ii).

e. Ditching

i. For Tier 1 and Tier 2, conduct work well within the active season (June-August) when snakes are not likely to be near hibernation sites and can escape disturbance, or contact Service for project specific recommendations.

ii. For Tier 1, use exclusionary fencing around the area to be cleared/graded and have the site cleared by a qualified individual prior to construction activities.

iii. For Tier 1, contact the Service for work greater than 200' for project specific recommendations.

[1] A qualified individual is someone who has received training on the identification and life history of EMR.

2. Site Access with vehicles (both Tiers)
    a. Limit operating vehicles/equipment, clearing trees, etc., in EMR habitat to the inactive season when the ground is frozen. During this time, under these conditions, EMR are most likely underground and will not be impacted by these activities. When possible, use low-impact equipment such as light weight track mounted vehicles with low ground pressure. In Tier 1, if the ground isn't completely frozen (due to weather conditions during the inactive season or if working near seeps and springs that are less likely to freeze), or if working near potential hibernacula, manual access (on foot) may be required.
    b. Strictly control and minimize vehicle activity in known/presumed occupied EMR habitat to the extent possible. During EMR active season, speed limits at facilities and access roads (i.e., 2-track and gravel) in occupied habitat should be <15 MPH.
    c. In Tier 1 and Tier 2 habitat areas, drivers should be aware of the potential danger to the driver of swerving to intentionally drive over snakes as well as legal and conservation implications.

3. Heavy Equipment (both Tiers)
    a. Spill Prevention for oils/fluids
        i. Site staging areas for equipment, fuel, materials, and personnel at least 100 feet from the waterway, if available, to reduce the potential for sediment and hazardous spills entering the waterway. If sufficient space is not available, a shorter distance can be used with additional control measures (e.g., redundant spill containment structures, on-site staging of spill containment/clean-up equipment and materials). If a reportable spill has impacted occupied habitat:
            1. Follow spill response plan;
            2. Call MDEQ and the National Response Center (800-424-8802), and the Service's Michigan Ecological Services Field Office (517-351-2555) to report the release.
    b. Do not use large equipment or perform earth-moving activities, water withdrawal and discharge for hydrostatic testing, or other activities that substantially affect the ground or water levels in potential EMR hibernacula areas. Avoidance measures may include, but are not limited to, re-routing of pipeline and appurtenance facilities, boring or drilling, and timing/weather-related restrictions. Measures will be determined on a site-specific basis, based on local habitat conditions, contact Service for more information.

4. Hydrology impacts (both Tiers)
        i. Water levels in known/presumed occupied habitats should not be artificially manipulated during the inactive season.

ii. Where applicable, water levels should be allowed to flow naturally and not be artificially stabilized. This allows for the restoration of early successional habitats.

Habitat Management and Restoration

5. Vegetation Management
    a. Mowing
        i. In Tier 1, mow during the inactive season.
        ii. For Tier 2, mowing is unrestricted during the inactive season. During the active season, follow daytime mowing restrictions and mow during times of day when snakes are less likely to be active (Figure 1). Increase mower deck height to >8 inches to reduce likelihood of injury to snakes. Higher deck height will reduce the risk of death or injury to snakes in the area.
        iii. In areas with turf grass or areas where trying to discourage EMR (e.g., in areas around buildings), mow regularly and keep grass relatively short (less than 4-6 inches) to reduce its suitability for EMR. If starting with longer grass (greater than 6 inches), mow during the inactive season initially, and then maintenance mowing can occur during the active season (as long as it is regularly maintained and kept shorter than 4-6 inches, so that EMR is unlikely to use those areas). Unmaintained/longer grass may be used by snakes and make them vulnerable to mortality during the next mowing event.

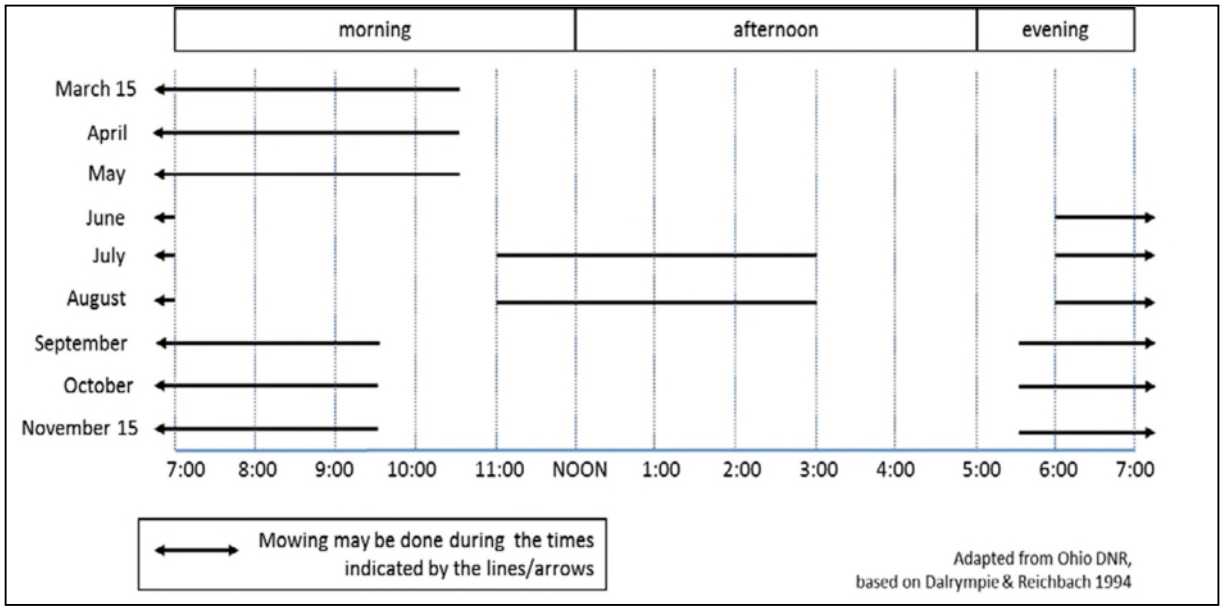


Figure 1. EMR Active season mowing schedule (NiSource Biological Opinion, page 273, USFWS 2015)

b. Cultivation (e.g., disking)
    i. In Tier 1 habitat, disking should be limited to the inactive season, and areas within 50 m of known or potential hibernacula should be avoided. In Tier 2, disking can occur in the active season if area is mowed during the inactive season and maintained shorter than 4-5 inches.
c. Brush/Tree Removal
    i. In Tier 1, conduct brush or tree removal in known/presumed EMR habitat during the inactive season, when the ground is frozen (such that soils can be left undisturbed).
    ii. Use low impact harvest methods in Tier 1 and Tier 2 wetlands to cut and remove individual trees. This includes using low-impact equipment such as light weight track mounted vehicles with low ground pressure. In Tier 1, if the ground isn't completely frozen (due to weather conditions during the inactive season or if working near seeps and springs that are less likely to freeze), or if working near potential hibernacula, use hand tools and access site on foot.
    iii. In Tier 1 and Tier 2, do not burn brush piles during the active season. Dispose of brush offsite or leave in place.
d. Herbicides
    i. Follow all appropriate label instructions regarding which herbicide formulation to use in potential EMR habitat. Avoid spray drift beyond the target species/area (observing label instructions regarding optimal wind speed and direction, boom height, droplet size calibration, precipitation forecast, etc.).
    ii. Avoid broadcast applications of herbicides in Tier 1. Spot spraying or wicking can be used to control invasive plants in occupied habitat. If using broadcast spray in Tier 2, limit the area of exposure to less than half of the available EMR habitat to allow for untreated areas to provide potential areas of refugia from exposure. Contact the Service if you need help in determining this.
e. Prescribed burning (Tier 1 and Tier 2)
    i. Conduct prescribed burns during the inactive season before snakes emerge from hibernation. Walk the burn unit following the burn and report any dead or injured EMR to the Service within 24 hours. Burn only a portion (e.g., one-third) of available EMR habitat in any year to leave suitable cover for EMR and its prey.
    ii. Establish fire breaks using existing fuel breaks (roads, rivers, trails, etc.) to the greatest extent possible. Cultivation (disking or roto-tilling) of burn breaks will be minimized to the extent that human health and safety are not jeopardized. Cultivation and mowing to establish fire breaks will occur during the inactive season.

6. Erosion control
    a. Use wildlife-safe erosion control blankets (without plastic mesh netting in the layers of material) as required in the general BMPs. Remove all silt fence used for erosion control once soils are stable to reduce barriers to EMR movement.
7. Revegetation
    a. Revegetate all disturbed Tier 1 and Tier 2 habitat with appropriate plant species (i.e., native species or other suitable non-invasive species present on site prior to disturbance). Monitor all restoration plantings for proper establishment and implement supplemental plantings as necessary to ensure restorations are of equal to or better habitat quality than previous conditions.
8. Invasive species
    a. In Tier 1 and Tier 2, avoid spread of invasive species into EMR habitat by following best practices. This includes inspecting and cleaning equipment and vehicles between work sites as needed to avoid the spread of invasive plant materials.
9. Wetland restoration
    a. Restoring natural hydrology in areas that have been drained by tiling and ditching may greatly benefit EMR habitat. Conduct tile breaking or excavation well within the active season to avoid potential hibernacula. Have a qualified individual walk in front of the equipment to clear the area. Work with the Service for Tier 1 habitat to ensure no indirect adverse effects are expected as a result of restoration efforts.
10. Water-level manipulation
    a. Water levels should not be artificially manipulated during the inactive season to avoid impacts to hibernating snakes. Contact the Service in Tier 1 habitat when water levels will be manipulated during the inactive season or will result in significant alterations to EMR habitat during the active season.

MICHIGAN
DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION
FOR
EASTERN MASSASAUGA RATTLESNAKE

ENV:JDG 1 of 2 APPR:DWS:MJO:03-18-20
FHWA:APPR:03-18-20

a. Description. Contractors are advised that the project area has a known population of the Eastern Massasauga Rattlesnake or is within its known range. This species is listed as federally threatened under the U. S. Endangered Species Act of 1973 (Act). Taking (killing, harming, or disturbing in any manner) of Eastern Massasauga Rattlesnake without a federal permit from the U.S. Fish and Wildlife Service is prohibited under federal law. The Act provides enforcement authority to the U.S. Fish and Wildlife Service and contains severe penalties for violations. The Contractor is liable to the Department for any penalties imposed for violations to the Act due to the Contractor's failure to comply with this special provision. Fines and penalties range up to $50,000 and 1 year in prison. Violation of any requirement listed below can lead to an immediate work stoppage in Eastern Massasauga Rattlesnake habitat. FHWA is required under federal law to assure MDOT is compliant with these provisions or risk losing federal funding for the project. This special provision addresses education, notification and intentional take requirements of the Contractor and their workers to protect the Eastern Massasauga Rattlesnake as required under the Act.

b. Materials. None specified.

c. Construction. Adhere to the following requirements:

1. Prior to construction, all Contractor staff working onsite must read the attached fact sheet (2 of 2). The purpose of the fact sheet is to provide the Contractor easy identification tips, notification that a venomous snake may be onsite, and raise awareness regarding its protected legal status.

2. Immediately report any possible Eastern Massasauga Rattlesnake sightings to the Engineer.

3. Intentionally 'take' is prohibited.

d. Measurement and Payment. All costs associated with complying with this special provision will not be paid for separately but will be considered to have been included in other pay items in the contract.

Eastern Massasauga Rattlesnake (*Sistrurus catenatus*)

Protected as federally threatened

Photos courtesy of the Michigan Department of Natural Resources and Michigan State University

This species is suspected to occur at or near the work site. Please have staff read the following information.

What Does an Eastern Massasauga Rattlesnake Look Like?

The eastern massasauga rattlesnake is a thick-bodied and short venomous snake. Adults typically measure 18 to 30 inches long. This species is gray to grayish-brown with dark blotches bordered by white down the middle of its back. The head is thick and triangular and has an obvious neck. Like many venomous snakes, the massasauga has vertical slitted pupils like a cat and heat sensing pits below the eyes. A rattle is present on the tail that "buzzes" as a warning signal, although they may strike without rattling. This is the only rattlesnake in Michigan.

Where Does It Live?

These snakes prefer wet areas, such as marshes, wet prairies, wet woods, and along rivers and lakes. They also use adjacent upland during parts of the year, especially in the summer. They hibernate during the winter in crayfish burrows, under logs and tree roots, and in small mammal burrows.

What Should You Do If You See a Massasauga Rattlesnake?

Massasaugas are shy and try to avoid confrontation but that does not mean they won't bite to protect themselves. Never try to handle, chase, provoke, or threaten a snake. When in potential snake habitat, wear thick boots that cover your ankles, long pants, and do not reach into thickets or under logs. If you hear the buzzing of a rattle stay calm and back away from the sound slowly. The snake will leave if you give it space.

If an eastern massasauga rattlesnake is found at a Michigan Department of Transportation (MDOT) project, the construction engineer should be contacted immediately. The construction engineer should then contact the MDOT ecologist at 517-335-2633.

How is the Massasauga Protected Under the Law?

The eastern massasauga rattlesnake is protected under federal law by the Endangered Species Act. This status prohibits harming or harassing the species along with policies to protect the species habitat.

For More Information:

60-Second Snakes: The Eastern Massasauga Rattlesnake
www.youtube.com/watch?v=-PFnXe_e02w

Photos
http://animaldiversity.org/site/accounts/pictures/Sistrurus_catenatus.html

General Information
http://mnfi.anr.msu.edu/emr

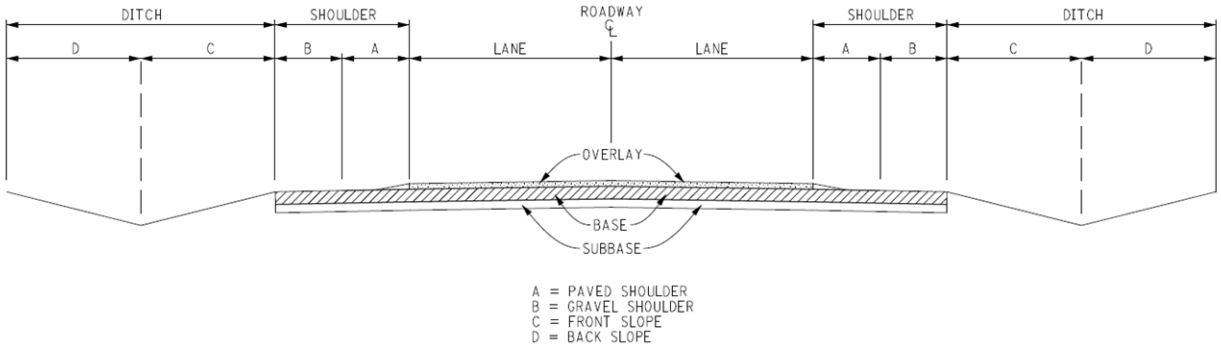
Attachment B

The following work types will have no effect on state or federally listed threatened or endangered species.

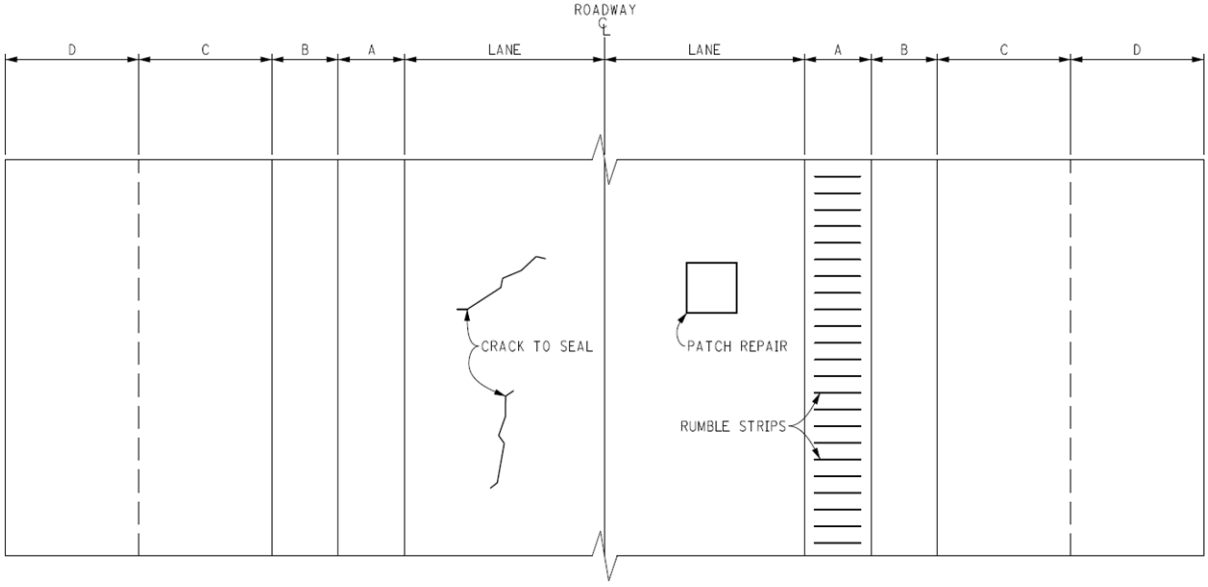
These projects are exempt from further review because they occur between existing shoulders or represent in-kind replacement of existing infrastructure with no impacts to the natural environment and therefore there would be no effect to any listed species. In addition, no equipment, vehicles, staging, spoil piles or other project related activities will occur outside the existing road shoulders.

If a project combines work types and not all are listed, then you can NOT exempt the project at this stage and further analysis is required.

ROAD



ELEVATION VIEW



PLAN VIEW

Shoulder Work (does not include any widening)

Aggregate base and shoulder material (sand or gravel) placed or regraded

Shoulder trenching - trench excavated (material is not wasted outside the shoulders) and new material placed/compacted in trench

Asphalt/HMA Work (shoulder to shoulder)

Asphalt shoulders (no widening) – paving shoulders with an asphalt/aggregate mix

Asphalt crack treatment/filling – filling cracks in existing asphalt pavement

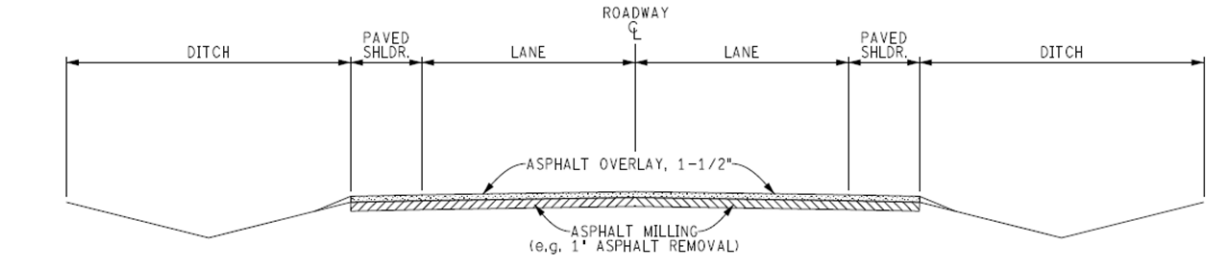
Asphalt chipseal with pulverized stove (single or double course) – liquid asphalt base sprayed, aggregate spread on top, rolled and swept – material is not wasted outside of the shoulders

Asphalt resurfacing (slurry, micro or multi course) - paving over top of an existing pavement with asphalt/aggregate mix

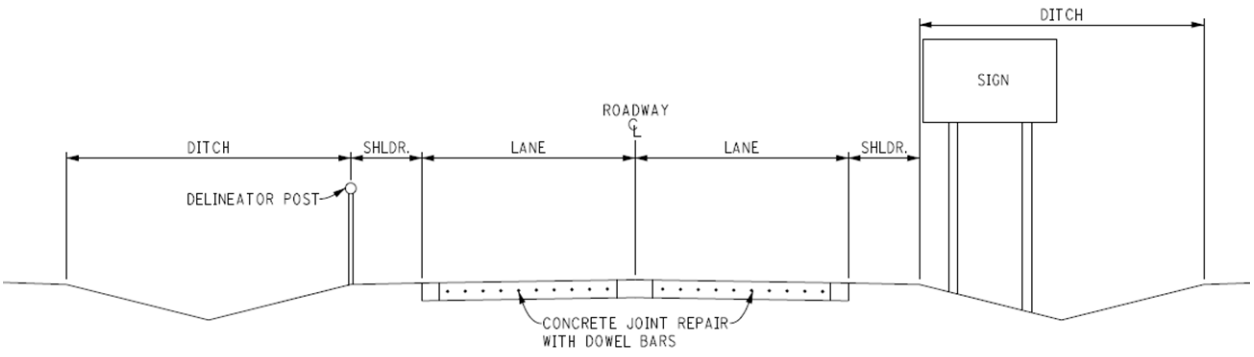
Asphalt overlay (single, multi course, unbonded or ultra-thin) paving over top of an existing pavement with asphalt/aggregate mix

Asphalt overlay on composite pavement - paving over top of an existing pavement with asphalt/aggregate mix

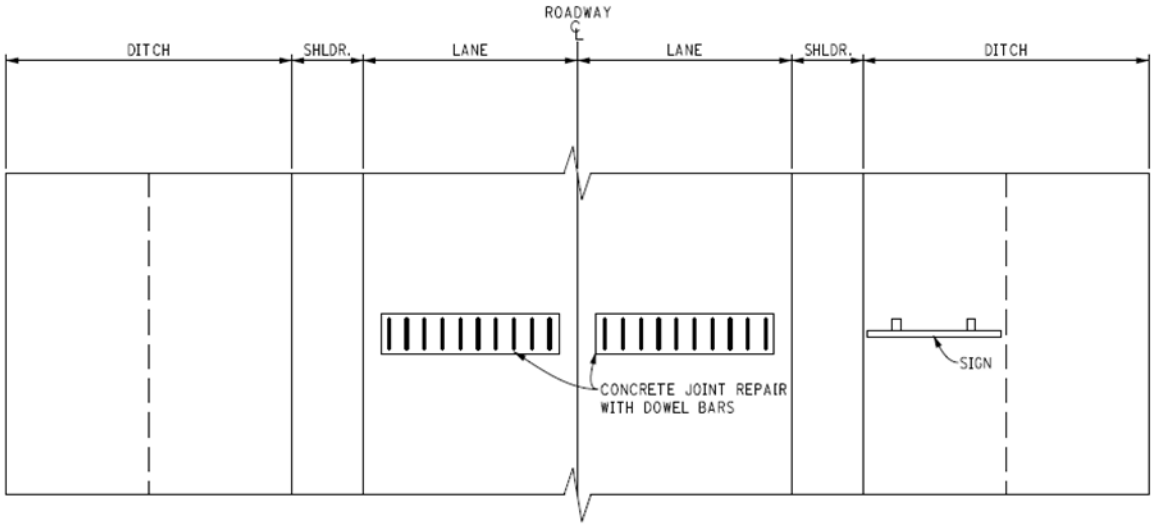
Asphalt milling, pulverize, regrade and repave - milling off existing pavement (material is not wasted outside of shoulders), regrading, compacting and paving over top with an asphalt/aggregate mix



* DIAMOND GRINDING OF CONCRETE SIMILAR



CONCRETE ROAD - ELEVATION VIEW

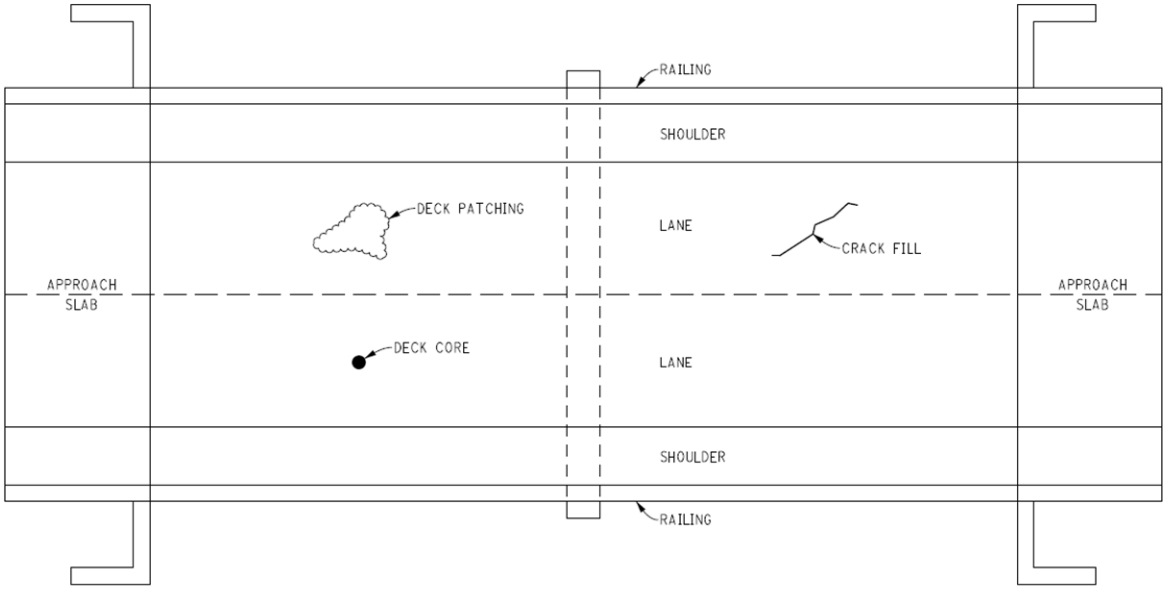


CONCRETE ROAD – PLAN VIEW

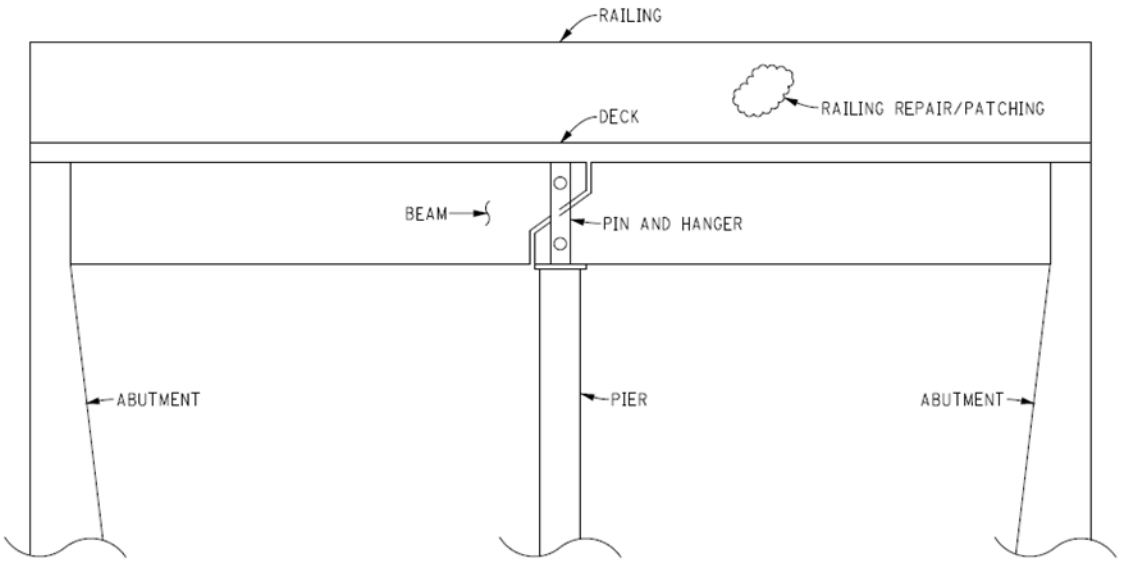
Concrete Work (shoulder to shoulder)

Concrete shoulders (no widening) – forming and pouring concrete shoulders
Concrete joint reseal, spall repair, crack seal – saw cutting out bad joints/areas and re-pouring concrete or filling cracks with liquid asphalt mix
Concrete pavement inlay or overlay - forming and pouring new concrete
Concrete pavement repair or restoration - saw cutting/removing bad areas and re-pouring concrete
Concrete pavement rubble-ize, regrade and repave – existing concrete is crushed, may be mixed with new aggregate, regraded and new pavement placed on top
Diamond grinding on concrete pavement - grinding to restore original profile or increase traction
Dowel bar retrofit - cuts made into existing concrete across faulted joints, dowel bars are inserted and covered with epoxy
Concrete patch repair or full depth repair, no widening - saw cutting out bad joints/areas and re-pouring concrete or filling cracks with liquid asphalt mix
Sidewalk replacement – remove and replace existing sidewalk, in kind
Sidewalk ramp replacement – remove and replace existing sidewalk ramp, in kind

BRIDGE



PLAN VIEW



ELEVATION VIEW

Bridge Work

Approach work confined to within existing shoulders (pavement work between shoulders)
Deck repairs (i.e. crack fill, overlays, patching, resurfacing, etc...) – maintenance type work to bridge deck only
Pin and hanger replacement of the bridge link plates and pin assemblies at expansion joints
Deck cores – coring and re-pouring concrete on bridge deck
Railing repairs or replacement (not extensions)

Miscellaneous Work

Curb and gutter at intersections (replacement, not new)
Pavement markings
Fog seals
High Friction Surface or other surface seals - liquid base applied (may be sprayed), aggregate spread on top, rolled and swept
Rumble strips – ground in (material is not wasted outside the shoulders)
Underdrain clean out
Signing (including delineators) – post holes are augered (possible poured foundation) or directly driven (operations are to be completed from roadway and/or shoulder only)
Signal installation or maintenance - no earth disturbance, mowing, or vegetation removal
Lighting installation or maintenance - no earth disturbance, mowing, or vegetation removal
Maintenance of existing dynamic message boards and weather stations - no earth disturbance, mowing, or vegetation removal